

## **I. REMARKS**

The Office Action dated November 4, 2009, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

By this Response, claims 1-3, 5-14, 17-23, 25, 26, and 29-34 have been amended to more particularly point out and distinctly claim the subject matter of the present invention. Claims 4, 15, and 27 have been cancelled without prejudice or disclaimer. No new matter has been added. Support for the above amendments is provided in the Specification, at least, in paragraphs [0025]-[0033]. Accordingly, claims 1-3, 5-14, 16-23, 25, 26, and 28-36 are currently pending in the application, of which claims 1, 12, and 23 are independent claims.

In view of the above amendments and the following remarks, Applicant respectfully requests reconsideration and timely withdrawal of the pending rejections to the claims for the reasons discussed below.

## **II. CLAIM REJECTIONS**

### **(A) *Claim Rejections under 35 U.S.C. §112, First Paragraph***

The Office Action rejected claims 4, 7, 15, 18, 27, and 30 under 35 U.S.C. §112, first paragraph as allegedly failing to comply with the enablement requirement. In particular, the Office Action alleged that claims 4, 7, 15, 18, 27, and 30 contain subject matter, which was not described in the specification in such a way as to enable one

skilled in the relevant art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 4, 15, and 27, the Office Action alleged that Applicant failed to disclose how the correctness of the signaling block has been verified without searching in a way to enable one of ordinary skill in the relevant art to use the same method.

Applicant respectfully disagrees with the allegations presented in the Office Action regarding claims 4, 15, and 27. However, to expedite prosecution of this application, Applicant has cancelled claims 4, 15, and 27 without prejudice or disclaimer, rendering the rejections of these claims moot.

Regarding claims 7, 18, and 30, the Office Action alleged that it is unclear how the octet slip can be detected in an errorless block of bits (*i.e.*, the bits prior to the first error bit position). The Office Action alleged that the bits prior to the first error bit would have been searched by a searcher and a confirmation would have already been made that they are errorless, therefore an octet slip cannot exist in those bits. Applicant respectfully disagrees with the allegations presented in the Office Action relating to claims 7, 18, and 30.

Applicant respectfully submits that one of ordinary skill in the relevant art would have understood that claims 7, 18, and 30 provide for the detection of error bits and the assumption of an octet slip. One would have further understood that these features are not the same. There are a number of reasons why a bit might be erroneous. The bit may have become inverted (*i.e.*, a 0 bit becomes a 1, or vice versa) due to any number of

circumstances, or an error bit may be caused by the octet slip. One would have found it factually incorrect that a confirmation has already been made that [error bits] are errorless, as alleged in the Office Action on pages 2 and 3. Rather, if a bit matches an apparently corresponding bit, and there has been both an octet slip, which causes an expected 0 bit to be replaced by a 1 bit, and for the same bit there has been a bit inversion, a confirmation that matching occurs says nothing about whether there is or is not an error. There may indeed be “an octet slip [existing] in those bits” which is hidden by a non-octet slip bit error. Therefore, contrary to the allegations presented in the Office Action, Applicant respectfully submits that claims 7, 18, and 30 clearly describe the subject matter in such a way as to enable one skilled in the relevant art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Therefore, Applicant respectfully requests withdrawal of the rejections of claims 4, 7, 15, 18, 27, and 30 under 35 U.S.C. §112, first paragraph. Applicant respectfully submits that claims 1, 12, and 23, and the claims that depend therefrom, are now in condition for allowance.

**(B) *Claim Rejections under 35 U.S.C. §112, Second Paragraph***

The Office Action rejected claims 10, 11, 21-23, and 25-36 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, the Office Action alleged that various limitations recited in claims 10, 21, 23,

and 25-36 are vague and indefinite. The Office Action further alleged that contradictory limitations exist in claims 11, 22, and 34.

Applicant has amended claims 6, 10, 11, 17, 21-23, 29, 33, and 34 to more particularly point out and distinctly claim the subject matter of the invention. Regarding amended claims 10, 21, and 33, as illustrated in Figure 2B, it can be seen that finding the first error bit in box 21 and fulfilling the error count condition in box 24 lead to an assumption that, if there is a slip, then the slip does not occur before the first error bit. Thus, it can be assumed that the octet slip has occurred from the position of the first error bit onwards. Figure 2B further illustrates that finding the second error bit in box 26 and verifying that the bits from k2 are correct lead to an assumption that, if there is a slip, then the slip does not occur until after the second error bit. Thus, it can be assumed that the octet slip has occurred before the position of the second error bit.

Regarding the rejections of claims 11, 22, and 34, Applicant has amended the “root” claims 6, 17, and 29 to more particularly point out and distinctly claim the subject matter of the invention. Amended claims 6, 17, and 29 recite that the octet slip is not detected, but is in fact being sought. This means that the outcome of searching for the octet slip is that “the octet slip cannot be detected” (*i.e.*, for claims 11, 22, or 34), or that the octet slip is detected “between the first and second error bit positions” (*i.e.*, for claims 10, 21, or 33). Applicant respectfully submits that the rejections of claims 10, 11, 21-23, and 25-36 under 35 U.S.C. §112, second paragraph, are moot in view of the amendments to these claims.

Therefore, Applicant respectfully requests withdrawal of the rejections of claims 10, 11, 21-23, and 25-36 under 35 U.S.C. §112, second paragraph. Applicant respectfully submits that claims 1, 12, and 23, and the claims that depend therefrom, are in condition for allowance.

**(C) *Claim Rejections under 35 U.S.C. §103(a)***

The Office Action rejected claims 1-3, 5, 6, 8, 9, 12-14, 16, 17, 19, 20, 23-26, 28, 29, 31, 32, and 36 under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 6,081,570 of Ghuman, *et al.* ("Ghuman") in view of U.S. Patent No. 5,631,909 of Weng, *et al.* ("Weng"). The Office Action alleged that the combination of Ghuman and Weng discloses every element recited in claims 1-3, 5, 6, 8, 9, 12-14, 16, 17, 19, 20, 23-26, 28, 29, 31, 32, and 36. Applicant respectfully submits that claims 1-3, 5, 6, 8, 9, 12-14, 16, 17, 19, 20, 23-26, 28, 29, 31, 32, and 36 recite subject matter that is neither disclosed nor suggested in the combination of Ghuman and Weng.

Claim 1, upon which claims 2, 3, and 5-11 depend, recites a method for detecting an octet slip in an inband signaling block in pulse code modulation. The method includes searching, with a searcher, for a first error bit to identify a first error position starting from an end of a searching block, the searching block comprising a set of bits. The method further includes counting, with a counter, a number of bit errors starting from a position in an adjacent block corresponding to the first error bit position to determine whether there is an octet slip before the first error position. The adjacent block is a set of

bits where each bit is present in an octet which is adjacent to an octet containing a corresponding bit of the searching block. Further, the method includes, in the event that an octet slip before the first error position is not indicated, searching in the searching block for a second error bit to identify a second error position and detecting, with a detector, octet slip by verifying bits starting from a position in an adjacent block corresponding to the second error bit position.

Claim 12, upon which claims 13, 14, and 16-22 depend, recites a device for detecting an octet slip in an inband signaling block in pulse code modulation comprising a slip detector. The device includes a searcher configured to search for a first error bit to identify a first error bit position starting from an end of a signaling block. The signaling block includes a set of bits. The device further includes a counter configured to count a number of bit errors starting from a position in an adjacent block corresponding to the first error bit position to determine whether there is an octet slip before the first error position. The adjacent block is another set of bits where each bit is present in an octet which is adjacent to an octet containing a corresponding bit of the searching block. Further, the device includes a detector configured to detect the octet slip by verifying error bits starting from a position in an adjacent block corresponding to a second error bit position of a second error bit in the signaling block in the event that an octet slip before the first error position is not indicated.

Claim 23, upon which claims 25, 26, and 28-36 depend, recites a system for detecting an octet slip in an inband signaling block in pulse code modulation. The system

includes a sender terminal configured to transmit a signal, a receiver terminal, an in path equipment, and a slip detector. The slip detector includes a searcher configured to search for a first error bit to identify a first error bit position starting from an end of a signaling block. The signaling block includes a set of bits. The slip detector further includes a counter configured to count a number of bit errors starting from a position in an adjacent block corresponding to the first error bit position. The adjacent block is another set of bits where each bit is present in an octet which is adjacent to an octet containing a corresponding bit of the searching block. Further, the slip detector includes a detector configured to detect the octet slip by verifying bits starting from a position in an adjacent block corresponding to a second error bit position of a second error bit in the signaling block in the event that an octet slip before the first error position is not indicated. The slip detector is configured to detect octet slip of the signal transmitted from the sender terminal through the in path equipment to the receiver terminal, in the event that octet slip has occurred in the signal such that the configuration of the slip detector is capable of detecting it.

As will be discussed below, the combination of Ghuman and Weng fails to disclose or suggest every element recited in claims 1-3, 5, 6, 8, 9, 12-14, 16, 17, 19, 20, 23-26, 28, 29, 31, 32, and 36, and therefore fails to provide the features of the claims discussed above.

Ghuman is directed to a parallel integrated frame synchronizer chip for a return-link signal processing apparatus receiving a serial data stream from an airborne vehicle,

such as a spacecraft. Ghuman discusses that the chip implements a sequential pipeline process, whereby serial data in the form of telemetry data or weather satellite data enters the synchronizer and passes to a parallel correlator subsystem or weather satellite data subsystem, and output from these systems through an output port (Ghuman, col. 2, line 39, to col. 3, line 8).

Weng is directed to a method and apparatus for determining burst errors in an error pattern. Weng discusses an error correction system that corrects errors in data encoded using an error correction code, and thus also counts burst errors in the decoded data (Weng, col. 2, line 54, to col. 3, line 67).

Assuming *arguendo* that Ghuman could be combined with Weng, the combination of Ghuman and Weng fails to disclose or suggest every element recited in claim 1. For example, the combination of Ghuman and Weng fails to disclose or suggest, at least, “counting, with a counter, a number of bit errors starting from a position in an adjacent block corresponding to the first error bit position to determine whether there is an octet slip before the first error position, the adjacent block being a set of bits where each bit is present in an octet which is adjacent to an octet containing a corresponding bit of the searching block; and in the event that an octet slip before the first error position is not indicated, searching in the searching block for a second error bit to identify a second error position and detecting, with a detector, octet slip by verifying bits starting from a position in an adjacent block corresponding to the second error bit position,” as recited in claim 1 (emphasis added). Weng fails to cure the deficiencies of Ghuman. In fact, Weng makes

no mention of searching or determining whether there has been an octet slip before a first error bit position or a second error position, as recited in claim 1. Accordingly, the combination of Ghuman and Weng fails to disclose or suggest every element recited in claim 1.

Claims 12 and 23 each have their own claim scope, but additionally contain limitations similar to those recited in claim 1. Accordingly, for similar reasons previously discussed for claim 1, the combination of Ghuman and Weng fails to disclose or suggest every element recited in claims 12 and 23.

Claims 2, 3, 5, 6, 8, and 9 depend from claim 1. Claims 13, 14, 16, 17, 19, and 20 depend from claim 12. Claims 24-26, 28, 29, 31, 32, and 36 depend from claim 23. Accordingly, claims 2, 3, 5, 6, 8, 9, 13, 14, 16, 17, 19, 20, 24-26, 28, 29, 31, 32, and 36 should be allowable for at least their dependency upon an allowable base claim, and for the specific limitations recited therein.

Therefore, Applicants respectfully request withdrawal of the rejections of claims 1-3, 5, 6, 8, 9, 12-14, 16, 17, 19, 20, 23-26, 28, 29, 31, 32, and 36 under 35 U.S.C. §103(a) and respectfully submit that claims 1, 12, and 23, and the claims that depend therefrom, are now in condition for allowance.

The Office Action also rejected claim 35 under 35 U.S.C. §103(a) as being allegedly unpatentable over Ghuman and Weng, and further in view of U.S. Patent No. 6,487,198 of Pierson. The Office Action alleged that a combination of Ghuman, Weng, and Pierson disclose or suggest every element recited in claim 35. Applicant respectfully

submits that claim 35 recites subject matter that is neither disclosed nor suggested in the combination of Ghuman, Weng, and Pierson.

Ghuman and Weng were previously discussed. Pierson is directed to a method and apparatus for unloading one or more T1 payloads from a target ATM cell where a target ATM cell has traveled over an ATM network that is emulating a T1 link. A plurality of ATM cells are stored in a cell buffer at a first rate. A buffer controller selects the target ATM cell from the bottom of the cell buffer. The buffer controller sends the T1 payloads carried in the target ATM cell to an elastic store buffer. The elastic buffer sends a plurality of timeslots in each T1 payload to a switch matrix at a second rate (Pierson, col. 3, line 26, to col. 4, line 33).

As previously discussed, the combination of Ghuman and Weng fails to disclose or suggest every element recited in claim 23. Pierson fails to cure the deficiencies of Ghuman and Weng. In particular, Pierson fails to disclose or suggest, at least, “a detector configured to detect the octet slip by verifying bits starting from a position in an adjacent block corresponding to a second error bit position of a second error bit in the signalling block in the event that an octet slip before the first error position is not indicated,” as recited in claim 23. Accordingly, assuming *arguendo* that Ghuman and Weng could be combined with Pierson, the combination of Ghuman, Weng, and Pierson fails to disclose or suggest every element recited in claim 23.

Claim 35 depends from claim 23. Accordingly, Applicant respectfully submits that claim 35 should be found allowable for at least its dependency upon an allowable base claim, and for the specific limitations recited therein.

Therefore, Applicant respectfully requests withdrawal of the rejection of claim 35 under 35 U.S.C. §103(a). Applicant respectfully submits that claim 23, and the claims that depend therefrom, are in condition for allowance.

## **II. CONCLUSION**

In conclusion, Applicant respectfully submits that Ghuman, Weng, and Pierson, whether taken individually or in combination, fail to disclose or suggest every element recited in claims 1-3, 5-14, 16-23, 25, 26, and 28-36. The distinctions previously noted are more than sufficient to render the claimed invention non-obvious. Further, Applicant respectfully submits that the limitations recited in the claims are definite. It is therefore respectfully requested that all of claims 1-3, 5-14, 16-23, 25, 26, and 28-36 be allowed, and this present application be passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicant's undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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Enclosure: Petition for Extension of Time